

Attorney Docket No. 10559-226001
Serial No.: 09/594,352
Amendment dated November 12, 2003
Reply to office action dated August 28, 2003

Amendment to the Claims:

This listing of claims replaces all prior versions, and listings, of claims in the application:

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1. (Withdrawn) A method, comprising:
receiving a data packet transmitted over a network;
evaluating the data packet for the presence of control information; and
if present, delivering the control information from a network processor to an operating system by way of a non-invasive driver.
 2. (Withdrawn) The method of claim 1, wherein the operating system provides an application programming interface (API) for network communications, and further wherein the non-invasive driver conforms to the API provided by the operating system.
 3. (Withdrawn) The method of claim 1, wherein the non-invasive driver appears to the operating system as a network interface device driver.

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4. (Withdrawn) The method of claim 1, wherein the non-invasive driver appears to the network processor as a forwarding interface.

5. (Withdrawn) The method of claim 1, further comprising forwarding the data packet on the network when control information is not present in the data packet.

6. (Withdrawn) An article comprising a computer-readable medium which stores computer-executable instructions for memory accessing, the instructions causing a computer to:

receive a data packet transmitted over a network;

evaluate the data packet for the presence of control information; and

if present, deliver the control information from a network processor to an operating system by way of a non-invasive driver.

7. (Withdrawn) The article of claim 6, wherein the operating system provides an API for network communications, and further wherein the non-invasive driver conforms to the API provided by the operating system.

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8. (Withdrawn) The article of claim 6, wherein the non-invasive driver appears to the operating system as a network interface device driver.

9. (Withdrawn) The article of claim 6, wherein the non-invasive driver appears to the network processor as a forwarding interface.

10. (Withdrawn) The article of claim 6, the instructions further causing a computer to:

when control information is not present in the data packet, forward the data packet on the network.

11. (Currently amended) A method, comprising:
instantiating a first driver to communicate between an operating system and a network processor;
registering the first driver with the operating system;
and
registering the first driver with the network processor.

12. (Currently amended) The method of claim 11, wherein the first driver appears to the operating system as a network interface device driver.

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13. (Currently amended) The method of claim [[11]] 12, wherein the first driver appears to the network processor as a forwarding interface.

14. (Currently amended) The method of claim [[11]] 12, wherein the first driver corresponds to a forwarding interface between a network and the network processor.

CA 15. (Currently amended) ~~The method of claim 14, further comprising:~~ A method, comprising:
instantiating a driver to communicate between an operating system and a network processor;
registering the driver with the operating system;
registering the driver with the network processor;
wherein the driver corresponds to a forwarding interface between a network and the network processor;
receiving a data packet at the forwarding interface, the data packet including control information;
delivering the control information from the forwarding interface to the driver; and
delivering the control information from the driver to the operating system.

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16. (Currently amended) ~~The method of claim 14,~~ A method,
comprising:

instantiating a driver to communicate between an operating
system and a network processor;

registering the driver with the operating system;

registering the driver with the network processor;

wherein the driver corresponds to a forwarding interface
between a network and the network processor;

 wherein the forwarding interface is a first forwarding
interface, the method further comprising:


receiving a data packet at the first forwarding interface,
the data packet including data;

delivering the data of the data packet from the first
forwarding interface to a second forwarding interface; and
routing the data packet on the network.

17. (Original) The method of claim 16, wherein the data
are delivered from the first forwarding interface to the second
forwarding interface by the network processor.

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18. (Currently amended) ~~The method of claim 14, further comprising:~~ A method, comprising:
instantiating a driver to communicate between an operating system and a network processor;
registering the driver with the operating system;
registering the driver with the network processor;
wherein the driver corresponds to a forwarding interface between a network and the network processor;
generating control information in the operating system;
delivering the control information from the operating system to the driver;
delivering the control information from the driver to the network processor;
delivering the control information from the network processor to the forwarding interface; and
routing the control information on the network.




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19. (Currently amended) An article comprising a computer-readable medium which stores computer-executable instructions for memory accessing, the instructions causing a computer to:

 instantiate a first driver to communicate between an operating system and a network processor;

 register the first driver with the operating system; and

 register the first driver with the network processor.



20. (Currently amended) The article of claim 19, wherein the first driver appears to the operating system as a network interface device driver.

21. (Currently amended) The article of claim [[19]] 20, wherein the first driver appears to the network processor as a forwarding interface.

22. The article of claim [[19]] 20, wherein the first driver corresponds to a forwarding interface between a network and the network processor.

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23. (Currently amended) ~~The article of claim 22, An~~
article comprising a computer-readable medium which stores
computer-executable instructions for memory accessing, the
instructions causing a computer to:

instantiate a driver to communicate between an operating
system and a network processor;

register the driver with the operating system;

register the driver with the network processor;

wherein the driver corresponds to a forwarding interface
between a network and the network processor;

the instructions further causing a computer to:

receive a data packet at the forwarding interface, the data
packet including control information;

deliver the control information from the forwarding
interface to the driver; and

deliver the control information from the driver to the
operating system.

24. (Currently amended) ~~The article of claim 22, An~~
article comprising a computer-readable medium which stores
computer-executable instructions for memory accessing, the
instructions causing a computer to:

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instantiate a driver to communicate between an operating
system and a network processor;

register the driver with the operating system;

register the driver with the network processor;

wherein the driver corresponds to a forwarding interface
between a network and the network processor;

wherein the forwarding interface is a first forwarding
interface, the instructions further causing a computer to:

receive a data packet at the first forwarding interface,
the data packet including data;

deliver the data of the data packet from the first
forwarding interface to a second forwarding interface; and
routing the data packet on the network.

25. (Original) The article of claim 24, wherein the data
are delivered from the first forwarding interface to the second
forwarding interface by the network processor.

26. (Currently amended) ~~The article of claim 22, An~~
article comprising a computer-readable medium which stores
computer-executable instructions for memory accessing, the
instructions causing a computer to:

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instantiate a driver to communicate between an operating system and a network processor;

register the driver with the operating system;

register the driver with the network processor;

wherein the driver corresponds to a forwarding interface between a network and the network processor;

the instructions further causing a computer to:

generate control information in the operating system;

deliver the control information from the operating system to the driver;

deliver the control information from the driver to the network processor;

deliver the control information from the network processor to the forwarding interface; and

route the control information on the network.

27. (Withdrawn) An apparatus comprising:

a general-purpose processor;


a driver executing on the general-purpose processor; and

a network processor configured to communicate data packets to a set of forwarding interfaces,

wherein a subset of the forwarding interfaces is presented to the network processor by the driver.

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28. (Withdrawn) The apparatus of claim 27 further comprising an operating system executing on the general-purpose processor, wherein the operating system provides an API for network communications, and further wherein the driver conforms to the API provided by the operating system.



29. (Withdrawn) A driver comprising:
an operating system interface configured to appear to an operating system as a network interface device driver; and
a network processor interface configured to appear to the network processor as a forwarding interface.

30. (Withdrawn) The driver of claim 29, wherein the driver is configured to take advantage of an API in the operating system.